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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,433	03/15/2004	Sheng-Shiou Yeh		3087

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EXAMINER	
DI GRAZIO, JEANNE A	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/801,433	YEH ET AL.	
	Examiner	Art Unit	
	Jeanne A. Di Grazio	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *03/15/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Priority to Taiwan Patent Application 092105715 (March 14, 2003) is claimed.

Claim Objections

Claim 1 is objected to because of the following minor informality:

Regarding claim 1, it appears as if the word -- of -- was inadvertently omitted in the limitation "wherein the black matrix defines a plurality apertures."

Appropriate correction is required.

Claim 9 is objected to because of the following minor informality:

Regarding claim 9, it appears as if the word -- an -- was inadvertently omitted in the limitation "wherein the black matrix defines a plurality of apertures arranged in array."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 10, Applicant recites "a black matrix applied upon said transparent substrate, and each unit of said black matrix having an anti-reflection layer and a light shielding layer." Applicant further recites "and each unit is completely vertically covered by at least one of said RGB resins."

The limitation "unit" is not defined in Applicant's Specification and cannot be determined from reading the Specification.

The Examiner is thus unable to understand what Applicant means by "unit."

Applicant has defined the black matrix as comprising an anti-reflection layer and a light shielding layer. The anti-reflection layer is further defined as comprising first and second anti-reflection films. The black matrix is also defined as having plural apertures. Thus, it seems as if "unit" may refer to the first and second anti-reflection films, the anti-reflection layer, the light shielding layer or possibly the strips of the black matrix that comprise its matrix pattern.

"Unit" also seems to suggest that the black matrix is somehow compartmentalized into segments.

For examination purposes, the Examiner reads "unit" as referring to any portion of the black matrix.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 6,285,424 B1 (to Yoshida)(as provided by Applicant) in view of United States Patent 6,740,457 B2 (to Takizawa).

As to claim 1, Yoshida has a black mask, color filter and liquid crystal display comprising in Figure 2, a transparent substrate (2), a black matrix (BM) having an anti-reflection layer (3 and 4) and a light shielding layer (screening film 5 which is made of chromium) successively formed on the transparent substrate (Column 8, Lines 27-32), the anti-reflection layer comprises a first anti-reflection film (3) and a second anti-reflection film (4) and a color resin layer (R, G, B).

The first and second anti-reflection films are made of different materials (See Abstract, for example) and thus the films have different indices of refraction.

The black matrix of Yoshida also appears to have apertures and the apertures are filled with the color resin layer as shown in Figure 2.

Yoshida, however, does not appear to explicitly that the color resin layer covers the black matrix entirely.

Takizawa teaches and discloses a color filter substrate and associated method and shows in reference to Figure 1, reflective light-shielding layers (212B) with apertures, red (213r) and blue (213b) resin layers that completely cover the light shielding layers (212B) and blue and green resin layers (213b and 213g) that are stacked above the light shielding layers (212B). Thus, at least one color totally covers the light shielding layers.

Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Yoshida in view of Takizawa to sufficiently shield light and to prevent degradation of visibility due to light reflected at the light-shielding layers (Column 9, Lines 48-64).

As to claim 2, the antireflection layer (3 and 4) and light shielding layer (5) are made of chromium and or chromium-based compounds (See Table 1 of Yoshida, for example).

As to claim 3, the color resin layer is of red, green and blue resins (Yoshida) as noted and seen in Figure 2.

As to claim 4, the RGB resins fill each three contiguous apertures respectively (See Figure 2 of Yoshida).

As to claims 5-8, the resin layers and resin stacks cover corresponding portions of the light shielding layers and are lapped on the layer and entirely cover the light shielding layer as can be seen Takizawa Figure 1, for example.

As to claim 9, Yoshida has a black mask, color filter and liquid crystal display comprising in Figure 3, a TFT substrate (20) joined onto the transparent electrode (7) of the color filter substrate (1), and in Figure 2, a transparent substrate (2), a black matrix (BM) having an anti-reflection layer (3 and 4) and a light shielding layer (screening film 5 which is made of chromium) successively formed on the transparent substrate (Column 8, Lines 27-32), the anti-reflection layer comprises a first anti-reflection film (3) and a second anti-reflection film (4) and a color resin layer (R, G, B).

The first and second anti-reflection films are made of different materials (See Abstract, for example) and thus the films have different indices of refraction.

The black matrix of Yoshida also appears to have apertures and the apertures are filled with the color resin layer as shown in Figure 2.

Yoshida also shows in Figure 3, a liquid crystal layer (22) in between substrates (color filter substrate 1 and TFT substrate 24).

Yoshida, however, does not appear to explicitly that the color resin layer covers the black matrix entirely.

Takizawa teaches and discloses a color filter substrate and associated method and shows in reference to Figure 1, reflective light-shielding layers (212B) with apertures, red (213r) and blue (213b) resin layers that completely cover the light shielding layers (212B) and blue and

green resin layers (213b and 213g) that are stacked above the light shielding layers (212B). Thus, at least one color totally covers the light shielding layers.

Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Yoshida in view of Takizawa to sufficiently shield light and to prevent degradation of visibility due to light reflected at the light-shielding layers (Column 9, Lines 48-64).

As to claim 10, Yoshida has a black mask, color filter and liquid crystal display comprising in Figure 2, a transparent substrate (2), a black matrix (BM) having an anti-reflection layer (3 and 4) and a light shielding layer (screening film 5 which is made of chromium) successively formed on the transparent substrate (Column 8, Lines 27-32), the anti-reflection layer comprises a first anti-reflection film (3) and a second anti-reflection film (4) and a color resin layer (R, G, B).

The black matrix has at least portions that include the anti-reflection and light-shielding layers.

The first and second anti-reflection films are made of different materials (See Abstract, for example) and thus the films have different indices of refraction.

The black matrix of Yoshida also appears to have apertures and the apertures are filled with the color resin layer as shown in Figure 2.

Yoshida, however, does not appear to explicitly specify that portions of the black matrix are completely vertically covered by at least one of said RGB resins.

Takizawa teaches and discloses a color filter substrate and associated method and shows in reference to Figure 1, reflective light-shielding layers (212B) with apertures, red (213r) and

blue (213b) resin layers that completely cover the light shielding layers (212B) and blue and green resin layers (213b and 213g) that are stacked above the light shielding layers (212B). Thus, at least one color totally vertically covers portions of the light shielding layers.

Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Yoshida in view of Takizawa to sufficiently shield light and to prevent degradation of visibility due to light reflected at the light-shielding layers (Column 9, Lines 48-64).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeanne A. Di Grazio whose telephone number is (571)272-2289. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeanne Andrea Di Grazio
Patent Examiner
Art Unit 2871

JDG

TARIFUR R. CHOWDHURY
PRIMARY EXAMINER